

Appln No. 10/807,631
Amdt date October 20, 2005
Reply to Office action of August 18, 2005

REMARKS/ARGUMENTS

Claims 1-50 are pending in the above-referenced matter.

Claims 1, 9, 15, 21 34 and 35 have been amended to further define Applicant's invention, none of which are to overcome the cited references as further discussed below.

In the Office Action, claims 1-50 are rejected under the judicially created doctrine of double patenting over claims 1-82 of U.S. Patent No. 6,610,116 B1; claims 1, 3-6, 9-13, 15, 18, 19, 21-22, 24-27, 31-44, 46-48, and 50 are rejected under 35 U.S.C. §103(a) for obviousness over Sinclair (US 5,567,230) in view of Reeves (US 5,912,369); and claims 2, 16, 23, and 45 are rejected for obviousness under §103(a) over Sinclair in view of Benasutti (US 6,093,227). In view of the remarks that follow, reconsideration and a notice of allowance are respectfully requested.

Allowance of claims 7, 8, 14, 17, 20, 28-30, and 49 if amended in independent from to include all of the limitations of the base claim is acknowledged with thanks.

Judicially Created Doctrine of Double Patenting Rejection over Claims 1-82 of US 6,610,116

Although Applicant disagrees with the judicially created doctrine of double patenting rejection over claims 1-82 of US 6,610,116 as the present application is a continuation-in-part application with a plethora of improvements disclosed, Applicant nonetheless submits a terminal disclaimer to obviate the rejection and to advance prosecution.

§103(a) Rejection of Claims 1, 3-6, 9-13, 15, 18, 19, 21-22, 24-27, 31-44, 46-48, and 50 over Sinclair in view of Reeves

In rejecting claims 1, 3-6, 9-13, 15, 18, 19, 21-22, 24-27, 31-44, 46-48, and 50 for obviousness under §103(a), the Examiner relied on Sinclair to disclose essentially as described but admits that "[c]laims 1, 3-6, 9-13, 15, 18, 19, 21-22, 24-27, 31-44, 46-48, and 50 differ from the disclosure of Sinclair in that the air filter system has an adhesive foam pad disposed on the

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exterior surface of the inlet port." In essence, according to the Examiner, the only distinguishing feature recited by the rejected claims and Sinclair is "an adhesive foam pad disposed on the exterior surface of the inlet port."

To make up for the shortcomings of Sinclair, the Examiner relied on Reeves and states that "Reeves discloses an adhesive foam pad disposed on the exterior surface of the inlet port. . . [and] discloses that the filter media can be [a] foam gasket." The Examiner further contends that Reeves discloses "an adhesive formed upon the foam gasket for attaching the filter system to an air supply ventilation nozzle."

Preliminarily, Applicant reminds the Examiner that to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. MPEP 706.02(j).

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Independent claim 1 recites, in part, an air filtration system comprising a two-part housing; an inlet nozzle defined by an opening having an inside diameter located on the upper housing part; the diameter of the opening being smaller than an inside diameter of the air supply nozzle of the passenger compartment; and an adhesive bonded to at least one of the exterior surface of the upper housing part proximate the inlet nozzle or the air supply nozzle of the passenger compartment.

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The Sinclair reference is considered the closest reference. Sinclair teaches a filter apparatus having "connecting member 46 formed about the inlet port 18. The connecting member 46 is substantially cylindrical and includes a central opening 48 sized to snugly fit over the outlet 50 of the ventilation control nozzle 52." (Col. 4, lines 18-21, emphasis added). "In use, the air filter unit 10 is frictionally attached to the outlet 50 of the ventilation control nozzle 52 of a passenger aircraft. . . The air filter unit 10 is attached to the ventilation control nozzle 52 by placing the connecting member 46 over the outer surface 62 of the ventilation control nozzle 52 until the inner surface 64 of the connecting member 46 frictionally engages the outer surface 62 of the ventilation control nozzle 52 sufficiently to hold the air filter unit 10 in position. Once the air filter unit is properly positioned, air forced through the ventilation control nozzle passes through the air filter unit and out the conical outlet port to form an umbrella of fresh filter air around the passenger." (Col. 4, lines 42-58, emphasis added. See also FIG. 3).

Sinclair does not suggest or contemplate replacing the friction fit between the housing and the air nozzle with a separate seal or engagement means. Further in that regard, Sinclair does not state anywhere in his disclosure that there may be a leakage problem when the friction fit is employed to warrant modifying Sinclair's inlet opening. Still furthermore, Sinclair does not contemplate any other means for engaging the filter housing to an air nozzle other than friction fit between the inlet nozzle and the air nozzle.

In contrast, claim 1 recites an air filtration system comprising an inlet nozzle defined by an opening having an inside diameter located on the upper housing part; the diameter of the opening being smaller than an inside diameter of the air supply nozzle of the passenger compartment. Sinclair clearly cannot anticipate claim 1 as the inlet nozzle 46/48 disclosed by Sinclair must have a larger opening than the outside diameter of the air nozzle, not the reversed.

Hence, modifying Sinclair as suggested by the Examiner would require not only expanding the inlet nozzle, but also reducing the opening of the inlet nozzle, neither of which are contemplated or makes engineering sense. As shown in FIGs. 1 and 6d of the '230 Sinclair patent, the inlet nozzle 46, and hence the opening, must be larger than the outside diameter of the air nozzle in order to engage the nozzle.

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Reeves discloses a self-adhesive fibrous air filter 10 (FIG. 1, the '369 patent) for directly bonding to a structure and filtering air passages to or from the structure without a housing. Thus, if Reeves' self-adhesive fibrous air filter is used to filter air from an air nozzle, the filter would be placed directly over the outlet of the air nozzle and no distinct or separate filter medium is necessary.

If Reeves is combined with Sinclair, the combination would be defective as one or more of the components are superfluous. Reeves' self-adhesive property 28 would be rendered useless as Sinclair's filter is positioned inside the housing, away from any surface. Thus, the adhesive property of Reeves' filter would not be needed as the filter is not in direct contact with any supply source. Conversely, if Reeves' filter was to be adhered to an inlet nozzle directly, then Sinclair's filter housing is useless as Reeves' self-adhesive filter does not require a housing and Sinclair's internal filter a redundant element. In short, Reeves discloses a combination filter and an attachment means (i.e., the adhesive). However, Sinclair's filter already incorporates a filter and an attachment means (i.e., frictional engagement). Thus, Reeves cannot contribute to any functional shortcomings of Sinclair as the two references both already disclose attachment means and filter means.

In the Office Action, the Examiner states that a person of ordinary skill in the art would combine Sinclair with Reeves as "the adhesive promotes the attachment of the filter media to the ventilation nozzle without the need of any tools." This logic is untenable since no tools are needed to engage Sinclair's filter housing to an air nozzle even prior to combining with Reeves.

Reconsideration and a notice of allowance of claim 1 in view of the foregoing remarks are respectfully requested.

Because claims 3-6 depend, either directly or indirectly, from claim 1, they too are allowable over Sinclair in view of Reeves for at least the same reasons as discussed above for the allowance of claim 1.

Independent claim 9 is similar to claim 1 and recites a method for filtering air in which the housing comprises an inlet nozzle and wherein the inlet nozzle defines an opening having an

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inside diameter smaller than an inside diameter of the air supply nozzle. Thus, Sinclair cannot anticipate claim 9 for at least the same reasons as discussed above for the allowance of claim 1.

Because claims 10-13 depend, either directly or indirectly, from claim 9, they too are allowable.

Independent claim 15 recites an air filtration device for filtering air discharged from an air supply source of a passenger compartment comprising a housing comprising an upper section and a lower section; and wherein an adhesive is bonded to a portion of the exterior surface of the upper section proximate the inlet nozzle, and wherein the adhesive comprises a passage for passing air discharged from the air supply nozzle. Again, Sinclair clearly cannot anticipate claim 15 as adding adhesive to an exterior surface of the Sinclair filter system will not achieve any functional purpose nor the results as recited in claim 15. Among other things, Sinclair and Reeves are not combinable as discussed above for claim 1. In addition, the exterior surface of Sinclair's filter housing does not contact the air nozzle. Only the wall surface of the inlet nozzle 46 contacts the air nozzle. Thus, adding an adhesive to the Sinclair exterior surface will not enable any contact between the adhesive and the air nozzle.

Yet furthermore, the adhesive recited in claim 15 includes a passage for passing air. In contrast, Reeves' adhesive foam filter filters air directly through the filter medium. Hence, Reeves does not disclose an adhesive comprising a passage for passing air discharged from the air supply nozzle. As shown in the '369 Reeves reference, the foam gasket functions as the filter and therefore must be inline with the air flow. The filter disclosed by Reeves does not have a passage for the passage of air as air must pass through the filter medium to be filtered thereby and not through an air passage.

Reconsideration and a notice of allowance are respectfully requested.

Because claims 18 and 19 depend, either directly or indirect, from claim 15, they too are allowable.

Independent claim 21 recites, in part, an air filtration device for filtering air discharged from an air supply nozzle of a passenger compartment comprising a two part filter housing; a filter media disposed in the interior cavity of the housing; an adhesive foam pad comprising a

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passage opening bonded to a portion of the exterior surface of the upper housing section proximate the inlet nozzle; and wherein the passage opening of the adhesive foam pad is generally centered with the inlet nozzle on the upper housing section by a mounting guide.

Thus, claim 21 expressly recites a filter media disposed in the interior cavity of the housing and a different adhesive foam pad bonded to a portion of the exterior surface of the upper housing. Furthermore, a mounting guide centers the opening of the inlet nozzle with the passage opening of the foam pad.

Sinclair does not suggest or contemplate replacing the friction fit with a separate seal or engagement means. Further in that regard, Sinclair does not state anywhere in his disclosure that there may be a leakage problem when friction fit is employed to warrant modifying Sinclair's inlet opening to include an adhesive foam pad. Still furthermore, Sinclair does not contemplate any other means for engaging the filter housing to an air nozzle other than friction fit between the inlet nozzle and the air nozzle. Yet furthermore, Sinclair does not disclose a filter housing with both a filter media and an adhesive foam pad.

Yet still furthermore, Sinclair does not disclose a mounting guide for centering the opening of the inlet nozzle with the passage opening of the foam pad. The Examiner points to item 34 in the Sinclair reference as a "mounting guide". However, item 34 is simply a ledge on both the upper and lower housing for compressing the filter media 16. Item 34 does not center the opening of the inlet nozzle with a passage opening of a foam pad, nor does it center any object whatsoever.

Reeves is relied on to disclose a foam gasket with adhesive. If Reeves is combined with Sinclair, the combination would be defective as one or more of the components are superfluous. Reeves' self-adhesive property 28 would be rendered useless as Sinclair's filter is positioned inside the housing, away from any surface. Thus, the adhesive property of Reeves' filter would not be needed by Sinclair as the filter in Sinclair is not in direct contact with any supply source. Conversely, if Reeves' filter is adhered to an inlet nozzle directly, then Sinclair's filter housing is superfluous as Reeves' self-adhesive filter does not require a housing. In short, Reeves discloses a combination filter and an attachment means (i.e., the adhesive). However, Sinclair's filter

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already incorporates a filter and an attachment means (i.e., frictional engagement). Thus, Reeves cannot contribute to any functional shortcomings of Sinclair as the two references both disclose a filter medium and an attachment means.

Applicant further submits that Reeves cannot be combined with Sinclair without materially altering Sinclair, which amounts to hindsight reconstruction of Applicant's claimed filter assembly. Among other things, adding an adhesive foam pad to Sinclair's inlet nozzle would require enlarging the inlet nozzle sufficiently to accommodate the adhesive foam pad. Doing so would destroy the only engagement design disclosed by Sinclair, which is a friction fit.

Most glaringly, neither Sinclair nor Reeves discloses a mounting guide, said mounting guide centering the passage opening of the adhesive foam pad with the opening defined by the inlet nozzle on the upper housing section. Among other things, Reeves' foam pad does not include a passage opening and both references do not disclose a centering guide, said centering guide centering the passage opening of the adhesive foam pad with the opening defined by the inlet nozzle on the upper housing section. Reconsideration and a notice of allowance are respectfully requested.

Because claims 22, 24-27, and 31-34 depend, either directly or indirectly, from claim 21, they too are allowable.

Regarding independent claim 35, it recites, in part, an air filtration device for filtering air discharged from an air supply nozzle of a passenger compartment having an adhesive foam pad comprising a passage opening affixed to an exterior surface of a filter housing proximate an inlet opening with the passage opening generally aligned to the inlet opening, the air filtration system assembled from the steps comprising obtaining a package container containing the adhesive foam pad, said adhesive foam pad comprising the passage opening, a first surface, a second surface, and adhesive on at least a portion of one of the first surface and the second surface; applying the adhesive foam pad on the filter housing comprising the inlet opening located on a generally flat portion of an upper housing section; and wherein the adhesive foam pad is applied such that the passage opening of the adhesive foam pad generally aligns with the inlet opening of the upper housing section.

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Sinclair discloses a filter assembly as summarized above in the discussion of claim 1. Applicant submits that Sinclair does not disclose an adhesive foam pad comprising a passage opening affixed to an exterior surface of a filter housing proximate an inlet opening with the passage opening generally aligned with the inlet opening. In fact, Sinclair only discloses a friction fit between an inlet nozzle of the filter assembly and an air nozzle to secure the filter assembly to the air nozzle.

Applicant further submits that Reeves cannot be combined with Sinclair without materially altering Sinclair, which amounts to hindsight reconstruction of Applicant's claimed filter assembly. Among other things, adding adhesive foam pad to Sinclair's inlet nozzle would require enlarging the inlet nozzle sufficiently to accommodate the adhesive foam pad. Doing so would destroy the only engagement design disclosed by Sinclair, which is a friction fit.

Furthermore, enlarging the inlet nozzle disclosed by Sinclair to affixed foam pad does not produce the claimed air filtration device recited by claim 35. The foam pad must be affixed to an exterior surface of the housing. Mounting a foam pad to the nozzle of Sinclair's filter assembly is affixing the foam pad to an interior surface of the nozzle, which differs from the claimed invention.

Still furthermore, the adhesive foam pad must be applied such that the passage opening of the foam pad generally aligns with the inlet opening of the upper housing section. Neither Reeves nor Sinclair discloses a foam pad having a passage opening. Reconsideration and a notice of allowance are respectfully requested.

Because claims 36-44, 46-48, and 50 depend, either directly or indirectly, from claim 35, they too are allowable.

§103(a) Rejection of Claims 2, 16, 23, and 45 by Sinclair in view of Benasutti

In rejecting claims 2, 16, 23, and 45, the Examiner contends that Sinclair discloses essentially all of the elements and limitations recited in the rejected claims except for bayonet detents for attaching the two-part housing together. The Examiner then relied on Benasutti

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disclose a bayonet detents to hold the two-part housing together and contends that it would have been obvious to combine the two references.


Applicant wish to point out that, to be proper, the rejection should have been in view of Sinclair and Reeves as set forth above and further in view of Benasutti.

Assuming that the Examiner meant to reject claims 2, 16, 23, and 45 over Sinclair in view of Reeves and further in view of Benasutti, Applicant submits that the new combination still suffers from one or more shortcomings. Among other things, the combination of Sinclair in view of Reeves fails for the reasons discussed above. However, Benasutti is only relied on to disclose bayonet detents, which failed to make up for the shortcomings of independent claims 1, 15, 21, and 35 discussed above. Because claims 2, 16 23, and 45 depend on one of claim 1, 15, 21, or 35, they too are allowable.

In view of the comments as discussed above, it is believed that claims 1-50 are in condition for allowance and early notice thereof is respectfully requested.

Should the Examiner finds it necessary to speak with Applicant's attorney, she is invited to contact the undersigned at the telephone number identified below.

Respectfully submitted,
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